



Defense Programs Conference

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**As Prepared
for Delivery
~25 min.
Page 1 of 8**

Introduction

Thank you, Jim, for that kind introduction. And, thanks to Credit Suisse, and McAleese and Associates, for hosting this conference. To all: thank you for the opportunity to share some thoughts this morning. I am truly privileged to speak before this distinguished audience, and I am grateful for what you do to bolster our Nation's productivity, and contribute to her security.

Strategic Complexity

You're all very well aware of how our global interconnections are creating an increasingly elaborate geostrategic environment—economically, materially, politically, and militarily. This complexity can work to our benefit, but presents difficult challenges as well. We have both opportunities for cooperation and prospects for competition with rising powers like China, while we face potential aggression from erratic regimes like North Korea and Iran.

And, as we carefully monitor decades-old tensions in the Middle East and North Africa, which have erupted into waves of protests in Tunisia, Egypt, Libya, the Arabian Peninsula, and the Levant, we are reminded yet again of the impact that events halfway across the world can have on our Nation's economy, from Wall Street to the local gas station or coffee shop.

And in addition to nation-states, a growing number of non- and sub-state actors, increasingly empowered by the proliferation of highly-capable yet relatively inexpensive technologies, are becoming more able to shape the geostrategic environment that once was the exclusive domain of nation-states with substantial materiel and human resources. Amidst this complexity and expanding slate of actors, we invariably will face agendas that are at odds with our vital national interests.

Moreover, as we address these numerous challenges, we will have to contend with budgetary pressures that, for the foreseeable future, will constrain our ability to merely purchase future solutions with insufficient attention to cost, and instead will compel us to be more innovative, creative, and efficient. Prevailing in this



complex and fiscally-constrained environment will depend on the extent to which we are able to strike delicate, difficult, and elusive balances, simultaneously on several levels—for example, between efficiency and effectiveness, and between our commitments to today’s requirements and tomorrow’s contingencies.

And, since our ability to foresee the future with even just a modest degree of certainty is limited, we must also balance between the likelihood of future threats and the severity of their potential consequences. In other words, we will have to manage risk, and assure maximum return from our investments.

As a starting point to a comprehensive strategy, the Defense Department is working to increase its ability to invest in necessary capabilities by trimming bureaucracy and overhead, thus attempting to effectively create up to two to three percent of budget growth in the next five years, to apply to operational and acquisition needs. But, even with this shifting of costs in overhead, toward investments in capabilities, we still must face the stark reality that we cannot completely compensate for our decreased purchasing power without being even more efficient in our processes and operations across the board. We also are scrutinizing all of our business practices, and identifying areas that are inefficient, needlessly redundant, or in some cases, both. From ongoing operations to future acquisition programs, the Department of Defense is strengthening its efforts to distinguish between capabilities that are actually required versus those that are merely desired. This will translate to approximately 100-billion dollars in DoD-wide efficiencies over the next five years, which then can be transferred to warfighting capabilities and requirements, and modernization or recapitalization efforts.

Given this strategic and fiscal context, your Air Force is taking inventory of its current suite of assets and capabilities, paying particular attention to what it must do to achieve a diversified portfolio for the future, capable of flexing across the full operational spectrum. The first decade of the new century has certainly demonstrated the need for full-spectrum air and space power, with its ability to traverse vast distances with unparalleled speed and versatility. So, from providing airspace control, airlift and air refueling, close-air support, personnel recovery, aeromedical evacuations, and much, much more in counterinsurgency operations in



Afghanistan and Iraq, to providing life-saving and life-sustaining first response to natural disasters in Haiti, Chile, and Pakistan, Airmen have been answering our Nation's call, alongside their Army, Marine, Navy, and Coast Guard teammates.

But, looking to the future, we are planning our force structure to be at least equally versatile, including being prepared for higher-end conflict involving aggressive actors. To that end, we continue to recognize the growing interconnectedness in the land, maritime, air, space, and cyber environments, and the need to strengthen Joint and Interagency collaboration. We know that now, more than ever, our ability to operate in any single domain relies on a substantial level of control in the others. This complexity increasingly requires a wide-angle view of the operating environments, to ensure that our domain control efforts are undertaken through close collaboration with our Joint partners, and that our intended effects span multiple domains as necessary.

Correspondingly, we continue to shift our paradigm away from compartmentalized air, space, or cyber capabilities, toward more integrated, broad-spectrum solutions as the operating standard. With a more comprehensive, capabilities-based focus rather than an emphasis on specific platforms, we will be better informed in our air and space power employment, and in our modernization and recapitalization strategies.

A Strategy toward Full-Spectrum Capabilities

But, we cannot overcome these challenges by merely investing in exquisite materiel solutions. Rising to these challenges will require more disciplined spending, efficiency, and innovation, while curbing the assumption of risk that past acquisition strategies incorporated in their development plans. If we are to prevail as a Nation, this risk must be shared mutually by both the private and public sectors, toward common purpose.

It will also require a far-sighted view toward genuine strategic significance, which frequently clashes with our natural tendency to focus on short-term demands. We'll continue to amplify our efforts to reform DoD-wide acquisition processes, and resolve ongoing serious issues. For example, a recent GAO assessment of 54 major weapons programs across the DoD found that most of them



suffered cost increases and schedule delays because the programs attempted to proceed through critical junctures on the strength of insufficient scientific knowledge and technical ability. And, a full 85 percent of the programs began development without having demonstrated that all of the required technologies were mature.

There are times when we will push to the very edge of the envelope, but in the environment unfolding before us, bringing such efforts prematurely to production will be the exception—and probably a rare exception. Historically, the Defense Department has spearheaded many quantum leaps in the state of the art by investing substantially into research and development; and, the current vision for the Air Force Manufacturing Technology Program acknowledges the Air Force's continued role in such project investments, because we know that we cannot afford to compromise the superior status of our defense industrial base by allowing it to atrophy.

Therefore, rest assured that recapturing acquisition excellence remains an earnest commitment of your Air Force—to be better stewards of hard-earned taxpayer dollars; to create more efficiency and predictability for both industry and government, in what otherwise is a highly complex process; and, ultimately, to provide warfighters with what they need to succeed, when they need it. We learned tough lessons in the recent KC-X air refueling tanker procurement competition, so you can expect that the recent awarding of the KC-46A contract will serve as the standard for open, fair, and disciplined acquisition as we move forward. I urge that we respect the decision and allow this important procurement to proceed unimpeded.

We all appreciate that the success of industry and the military are mutually related now, perhaps more than they have ever been. The measure of our shared success will depend on our ability to achieve greater affordability, reliability, efficiency, and versatility in our Air Force systems. But our prospects for achieving all of this hinge on wise investments in researching and developing promising technology; our ability to implement the most advanced industrial and manufacturing techniques; and the efficiency with which we employ these



techniques toward future weapon systems that can be delivered on budget and on time.

This strategic environment and associated challenges are described in the “Technology Horizons” study, a key internal Air Force document that independently and objectively informs the Air Force corporate process on future S&T opportunities for investment. Prepared by the Office of the Air Force Chief Scientist, it says, among other things, that as a result of proliferating technology and explosive growth in computing power, we will likely see an increased number of near-peer competitors and potential adversaries. Relatively small investments by potential adversaries can enable them to decrease or perhaps even negate the capabilities that we have acquired at great expense. One example is in the area of burgeoning anti-access and area-denial, or “A2/AD” capabilities, which is why Admiral Roughead—from whom you will hear shortly—General Amos, and I are working on an initiating concept called “Air-Sea Battle,” to more efficiently and effectively integrate our maritime and air capabilities toward maximum strategic effect.

Many of these advanced capabilities, including for A2/AD, are largely software-driven, with upgrades and changes that are enabled by mere software updates. This calls not just for “more” or “better” systems in response, but also for more *autonomous* and *evolvable* systems, which, we believe, would prove effective in helping us contain, at least in part, our problem of rising costs. In the Air Force, costs have been increasing practically across the board. For instance, in the last 10 years or so, total personnel costs rose around 15%, despite the fact that Air Force personnel strength dropped by 7%; and operating costs rose nearly 20%, despite a reduction in number of manned aircraft by 10%. Similar increases can be found across our operations and sustainment obligations.

Therefore, systems and processes with broader and deeper autonomy will be in high demand, for they can help alleviate our growing costs. Research and development can help us find technological solutions that are more autonomous and efficient, so that we can optimize increasingly complex processes without correspondingly growing manpower requirements. Our remotely-piloted aircraft enterprise is an operationally-relevant example, where we need automated solutions



to enable us to deal with massive data processing, exploitation, and dissemination requirements. This is an operational predicament that was *created* by technology—one that we have accepted because of its tremendous advantages—but it is also a problem that can, and must, be *solved* by technology. Being evolvable and adaptable will be vital in our efforts to optimize and squeeze every bit of value from each taxpayer dollar, and every bit of capability from our weapon systems. With capabilities that can be scaled and tailored toward the desired effect, airpower, with its intrinsic versatility, will be an important leverage point as we operate under ongoing budgetary pressures, as we seek greater efficiencies in our processes and operations, and as we maintain a national, broad-based portfolio of capabilities across the full spectrum of operations. Ultimately, this expands our Nation's strategic options, at a time when we face more varied challenges, while we contend with fewer material resources to address them.

Strategic Inflection Point

This is a challenging time for our Nation, for the military as well as the private sector. Our emergence from economic distress continues to be slow and uncertain, and may remain so for some time. Many have noted that the surest path toward recaptured economic vitality can be charted largely by our Nation's private industry—from small businesses to major firms, and including investors who help to underwrite the entrepreneurial spirit that has propelled America throughout its entire economic history. I agree with this sentiment, but I believe that our recovery will require a concerted whole-of-nation approach, involving dedicated professionals from across the private sector, academia, and government—all acting in common cause, and with constant purpose.

There are many ways to view this moment of strategic inflection, so to conclude, I offer only three thoughts for your consideration today.

First, we require more efficiency, agility, and responsiveness, as I have outlined so far. If we are to address the root causes of explosive cost growth in many of our Major Defense Acquisition Programs, we must be innovative in advancing immature technology more efficiently. We must be firmly committed to stemming the tide of readiness shortfalls and widening gaps in manufacturing technology. And, we must



work to shift the manufacturing focus earlier in the acquisition process, so that we can deliver better, rapid-response solutions where 10- to 15-year development cycles are insufficient in keeping pace in our highly dynamic environment.

Second, we require straight, candid talk from everyone—investors, manufacturers and service providers, and the government. We need honest and realistic evaluations of requirements and capabilities, pricing and timelines, and development and delivery. With the confluence of ongoing fiscal pressures and strategic uncertainty, there is no trade space to do otherwise, so as I said recently, we can't afford to overpromise and then under-deliver. Quite simply, there is neither time nor patience for it.

Conclusion

Finally, we must keep the faith. America's exceptional stature is owed to our ability to be critical of ourselves and cautious, yet optimistic and undaunted—all at the same time, and in equal measure. In the great history of our Nation, we have endured ebbs and flows, ups and downs, successes and setbacks. On balance, we have leveraged cautious optimism with innovation and energy to tremendous effect. In our private sector, the overall upward trajectory of economic growth and productivity is unparalleled.

And today, I stand before you, proudly representing the men and women of the United States Air Force, who with *Integrity*, *Service*, and *Excellence*, uphold the storied heritage of a service that was forged in fire in World War II, became an independent service in 1947, helped to win the Cold War, and for more than two decades, has sustained combat operations—from DESERT SHIELD and DESERT STORM, to the Balkans, and most recently, in Iraq and Afghanistan.

Despite having to face a great deal of uncertainty, we can reflect on our collective experience, integrate our individual strengths, and move forward with an unshakeable belief in what we can achieve together. You in this room, and others, have an entrepreneurial spirit that will unleash innovation and creativity to the benefit of our Nation, while your Air Force and Armed Forces—the best military team that has ever been assembled—will find ways to continue ensuring our Nation's security, even in times of economic contraction and more limited resources.



I look forward to partnering with you as we shoulder this challenge, and pick up our game—all of us together. I thank you all for your contributions to national security. I am privileged to be able to spend time with all of you today, and I sincerely wish each of you all the very best.